

ABSTRACT

A wireless sensor device of low energy consumption operates over a prolonged period of time for providing a reliable sensor result. The wireless sensor device includes a sensor configured to sense a target object and provide a sensor signal of varying levels indicative of condition of the target object, a signal processing circuit configured to amplify the sensor signal and give an amplified electric analog signal, and a detection circuit configured to receive the amplified analog signal and provide a detection output when the electric analog signal goes beyond a predetermined detection threshold. Also included in the device is a radio transmitter which transmits a radio detection signal in response to the detection output. Further, the device includes a power supply configured to provide an electric power to the signal processing circuit and the radio transmitter; and a power generating element which converts an external energy into the electric power to be accumulated in the power supply. The controller is included to activate the radio transmitter only in response to the detection output, permitting the radio transmitter to generate the radio detection signal. Thus, the radio transmitter can be kept inactivated until receiving the detection output, thereby saving energy to prolong the operating life of the device.